

A2 --U.S. patents 4,595,045 and 5,158,129 disclose method and apparatus for applying a layer of flux to the top of a slab being cast. In both of these designs, the delivery pipe (or supply pipe) is positioned slightly above the predetermined powder height, so that flow through the pipe is regulated by how fast the flux material flows away from the discharge end of the pipe. Thus, when the powder level drops below the delivery end opening, material flows from the pipe. This form of apparatus, which relies solely upon the flow of material away from the delivery pipe, has not always been satisfactory since occasionally the end of the delivery pipe will become blocked by slag or the like, and rigid piping at a sufficient flow angle is needed that is too much of a hindrance at the caster.--

[ Please replace the paragraph beginning on page 4, line 24 with the following paragraph: ]

A3 --FIG. 1 is a side elevational view of a first embodiment of an apparatus of this invention, which apparatus is shown somewhat schematically wherein an intermediate hopper and pinch valve are employed, and which figure further illustrates various control means.--

[ Please replace the paragraphs beginning on page 6, line 18 with the following paragraphs: ]

44 --The apparatus shown in FIGS. 1 and 2 for depositing the granular mold flux onto the top of the slab being cast within the mold consists of three major components, these being an intermediate hopper 22, transfer means indicated generally at 24, and delivery means or delivery apparatus indicated generally at 28. The transfer means 24 transfers granular mold flux from a source of granular mold flux to the intermediate hopper 22, the source being indicated generally at 26. The source of granular flux may be a large bulk bag 30 approximately 4 - 5 ft. on each side. The delivery means 28 feeds the granular mold flux from the intermediate hopper 22 to the top of the slab via gravity.

--The transfer means consists of a commercially available vacuum transfer system such as a Norclean™ or Vacu-Max™ vacuum transfer system. As the details of such vacuum transfer systems are well known in the art, they are only superficially schematically illustrated in FIG. 7. Thus, the unit 24 shown in FIG. 7 includes an air powered vacuum head 24.1, a filter housing 24.2, and a cyclonic separator 24.3. Such vacuum transfer devices include an intake port 24.31 (FIG. 1) to which a flexible tube and wand 32 may be connected, the wand extending into the bag 30. The transfer means 24 is connected to a source of air via port 24.11 (FIG. 7), the air entering through port 24.11 causing a vacuum to be drawn through the flexible tube and wand 32. During operation of the transfer means, a mixture of air and granular mold flux, indicated by arrow 36, will be introduced into the

transfer means through port 24.31. Due to the cyclonic effect within the housing 24.3, the granular flux material will be separated from the air and will descend downwardly as indicated by the arrow 40. Exhaust air will exit from an upper portion of the transfer means as indicated by the arrow 42, the exhaust air passing through an internal filter with housing 24.2. The flux material indicated by the arrow 40 will be received within the intermediate hopper 22.--

Page 11, line 29, insert a "." at the end of the line.

In the claims:

1. (Amended) Apparatus for introducing granular mold flux onto the top of a slab being cast within a continuous casting mold; the apparatus comprising:
  - a source of granular mold flux;
  - an intermediate hopper for receiving granular mold flux from the source;
  - transfer means for transferring the granular mold flux from the source of granular mold flux to the intermediate hopper; and
  - a delivery apparatus for feeding the granular mold flux from the intermediate hopper to the top of the slab being cast within the continuous casting mold, the delivery apparatus including at least one delivery tube assembly interconnected with the intermediate hopper, and